05.01-12/6/99-00497

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

SUBJECT: NAS Oceana, Risk Assessment Tables, SWMUs 1,15, and 24

FROM: Betty Ann Quinn, Toxicologist

TO: Robert Stroud, Project Manager

DATE: December 6, 1999

I have reviewed the risk assessment tables for the above SWMUs. My comments are included below. The review focused primarily on SWMU 24, since it appeared that the exposure scenarios for SWMUs 1 and 15 used the same exposure parameters and equations. Comments are listed by receptor; some comments may apply to more than one receptor population.

RESIDENT

1. Please provide a copy of the reference titled, "Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure," dated 1993, for review.

2. The value for skin surface area should represent the 50 percentile value. The difference between the RME and CT values for the residential groundwater adult is not clear.

3. The dermal absorption intake equation for the adult and child resident does not include an equation for the case when exposure time is greater than t*.

4. The difference between the skin surface area values for the RME and CT child resident for groundwater exposure is not clear.

5. It is not clear where the skin surface area values for adult soil exposure were obtained. Note that EPA's Dermal Exposure Guidance recommends an RME value of 5800 cm^2 and a CT value of 5000 cm^2.

6. The soil/skin adherence factor of 0.2 for the RME adult soil exposure scenario is a mean value, not a maximum value as described in the footnote. An upper bound value for this parameter should be used for the RME case.

7. The source of the skin surface areas for the child soil exposure scenario is also not clear.
8. The soil/skin adherence factor for the RME child soil exposure scenario of 0.11 is a mean value, not a maximum value as described in the footnote. It is also lower than the CT value. An

upper bound value for this parameter should be used for the RME case.

9. The source of the 0.83 m^3/hour inhalation rate for the adult air exposure scenario could not be found in the cited reference.

CONSTRUCTION WORKER

10. The value for skin surface area should represent the 50 percentile value. The difference between the RME and CT values for the construction groundwater receptor is not clear.

11. The source of the values for inhalation rate for exposed soil is not clear. Also, there should be a distinction made between RME and CT values.

12. What is the rationale and source of the RME and CT values used for direct contact with soil?

13. The soil/skin adherence factor of 0.24 for the RME construction soil exposure scenario is a mean value, not a maximum value as described in the footnote. An upper bound value for this parameter should be used for the RME case.

14. The fugitive dust concentration factor for inhalation exposure to soil is actually better described as a particulate emission factor.

15. The source of the inhalation rate for exposure to soil is not clear. The cited reference gives a value of 20 m^3/workday for workers, which translates into 2.5 m^3/hour for an 8 hour workday for this parameter.

INDUSTRIAL WORKER

16. The soil/skin adherence factor of 0.32 for the RME industrial soil exposure scenario is a mean value, not a maximum value as described in the footnote. An upper bound value for this parameter should be used for the RME case.

17. There did not appear to be any trespasser/visitor receptor population tables included with SWMU 24, although these tables were included with SWMUs 1 and 15.